

IMX-1550-50



DEVICE

1550 nm, 50 GHz Analog Intensity Modulator

OVERVIEW

The Optilab IMX-1550-50 Intensity Modulator is designed for analog modulation of up to 50 GHz for microwave links, antenna remoting, and RF over Fiber. It is a high linearity, low driving voltage lithium niobite Mach Zehnder interferometer (MZI) design. It is a hands-on bias-stabilized modulator that proves to be extremely stable for long periods of time, and features excellent stability in a biased circuit, operating from 1525 nm to 1610 nm. It has an excellent operating temperature tolerance ranging from -30 °C to +60 °C. The IMX-1550-50 features separate RF and bias ports. Contact Optilab for more information.

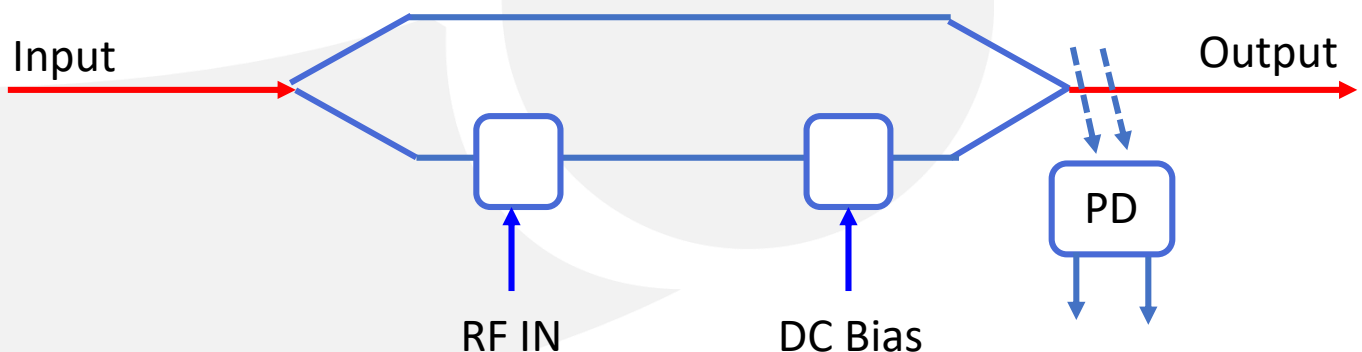
FEATURES

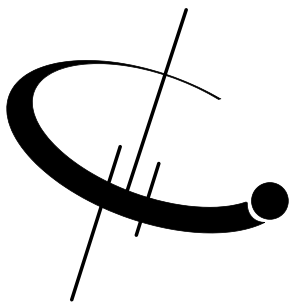
- > 50 GHz operational bandwidth
- 1525 nm to 1610 nm
- Zero chirp design
- Built in photodiode
- Integrated polarization
- Excellent stability in a biased circuit

APPLICATIONS

- 50 GHz RF over Fiber
- Antenna remoting
- High frequency fiber optic Links
- Instrumentation
- Microwave link
- Active mode-locked laser

FUNCTIONAL DIAGRAM





IMX-1550-50



SPECIFICATIONS

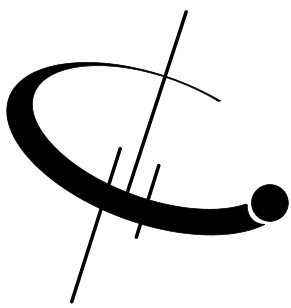
Input Optical Power	100 mW max.
Operating Wavelength	1525 to 1610 nm
Chirp Value	$< \pm 0.2$ (zero chirp design)
Insertion Loss	≤ 5.0 dB
Extinction Ratio	≥ 25 dB
Optical Return Loss	≤ -45 dB
S21 Bandwidth (RF Port)	≥ 30 GHz @ -3 dB; ≥ 50 GHz @ -6 dB
S11 Return Loss (RF Port)	≤ -10 dB @ 20 GHz
V π (RF Port)	2.7 V typ. @ 10 GHz; 4.9 V typ. @ 50 GHz
RF Input Power	27 dBm max.
Impedance (RF Port)	50 Ω typ.
V π (Bias Port)	≤ 6 V
Impedance (Bias Port)	> 1 M Ω
PD Responsivity	10 mA/W typ.

GENERAL

MECHANICAL

Operating Temperature (standard)	-30 °C to +60 °C
Operating Temperature (TQ version)	-55 °C to +75 °C
Storage Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input Fiber Type	PANDA – PM 1550
Output Fiber Type	SMF-28
Input Connector	FC/UPC (default), FC/APC available
Output Connector	LC/APC (default), FC/APC available
Waveguide Process	Ti-indiffused
Bias Port Connector	2 PINS
TAP PD Connector	2 PINS
RF Port Connector(s)	GPPD Connector
Cabling	900 μ m tubing
Dimensions (including boots)	134 mm x 13 mm x 9.5 mm

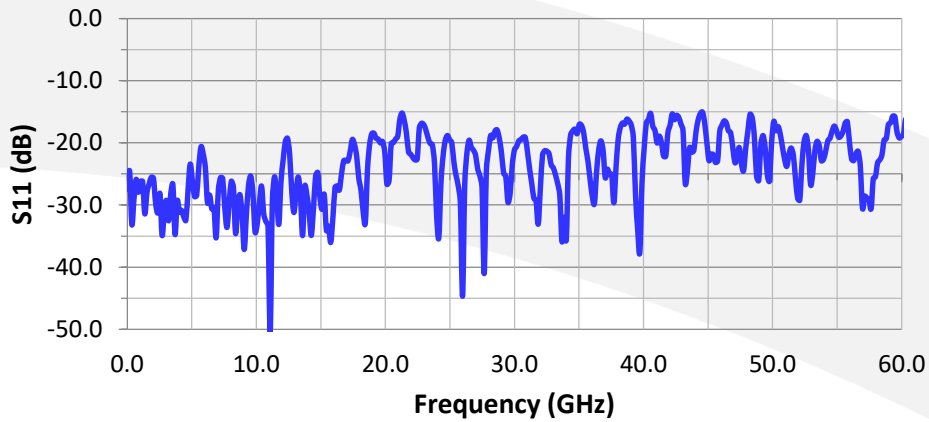
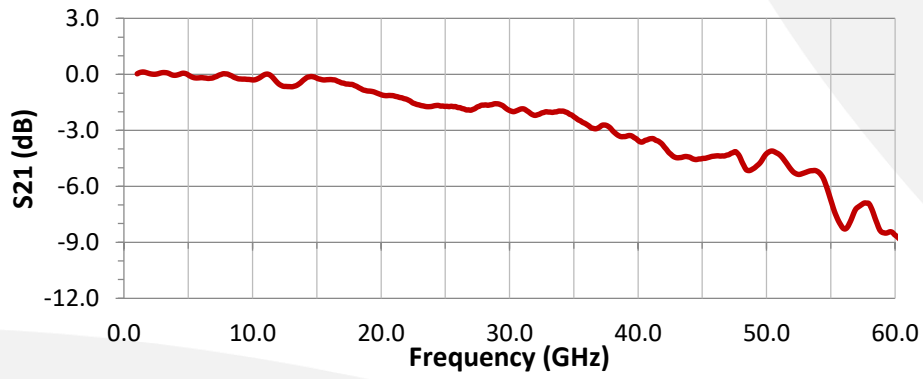




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TYPICAL S21 AND S11 CHARACTERISTICS



MECHANICAL DRAWING

